

## KR-5400, KR-4400, KA-4006

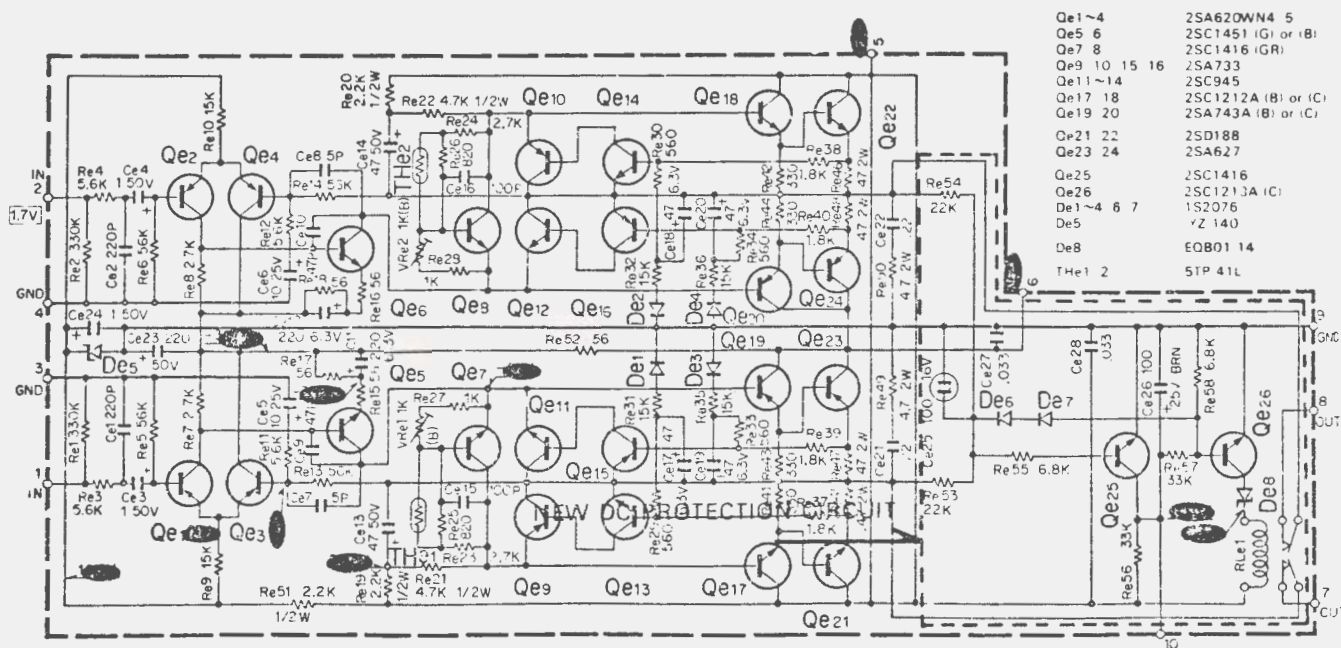
## MAIN AMP UNIT (X07-1350-10, -11, -12)

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Main amp units of KR-5400, KR-4400 and KA-4006 are revised for using New DC Voltage Protection Circuit. KR-5400's is revised from (X07-1280-10) to (X07-1350-10), KR-4400's from (X07-1280-11) to (X07-1350-11) and KA-4006's from (X07-1280-12) to (X07-1350-12). Refer to SERVICE BULLETIN NO. SB-059 about circuit description. As to specifications, no amendment is needed.

Application: From Serial No. 06xxxx

### MAIN AMP (X07-1350-10)



The schematic diagram shown above is KR-5400 main amp unit (X07-1350-10). KR-4400 is modified from (X07-1350-10) to (X07-1350-11) and KA-4006's from (X07-1350-10) to (X07-1350-12). Modification points are marked on the schematic diagram with black screen and showed in the parts list.

### ■ PARTS LIST

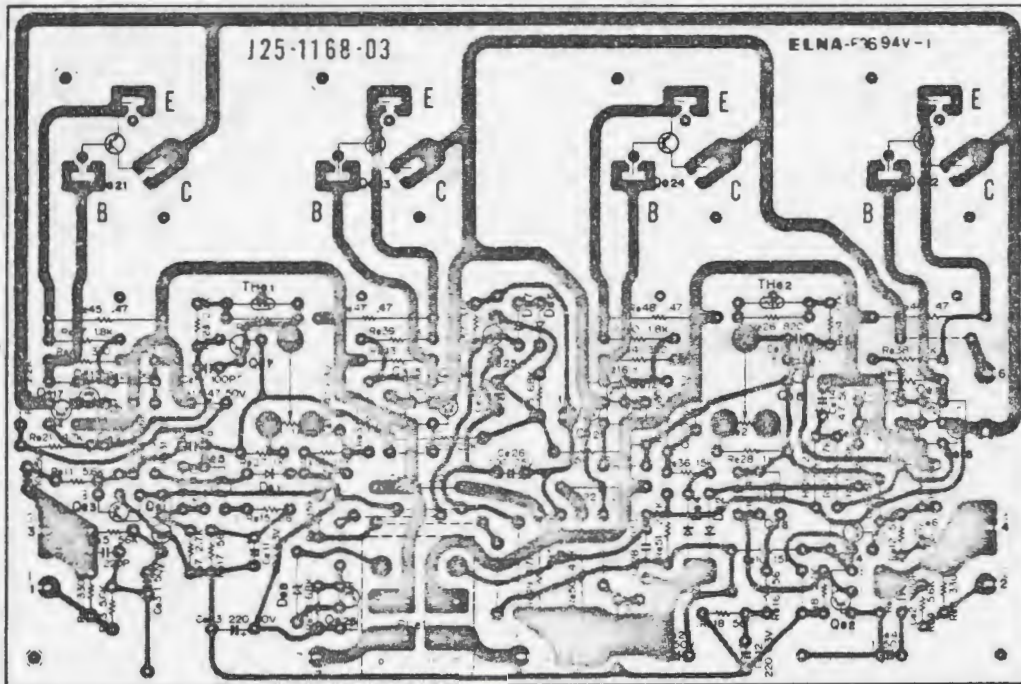
Ref No	Parts No	Description	Remarks
<b>CAPACITOR</b>			
Ce1 2	CC45SL1H271K	Ceramic	220pF ±10%
Ce3 4	CE04W1H010	Electrolytic	10μF 50WV
Ce5 8	CE04W1E100	Electrolytic	10μF 25WV
Ce7 8	CC45SL1H050D	Ceramic	5pF ±0.5pF
Ce9 10	CC45SL1H470K	Ceramic	47pF ±10%
Ce11 12	CE04W0J221	Electrolytic	220μF 6.3WV
Ce13 14	CE04W1H470	Electrolytic	47μF 50WV
Ce15 16	CC45SL1H101K	Ceramic	100pF ±10%
Ce17 ~20	CE04W0J470	Electrolytic	47μF 8.3WV
Ce21 22	CO03M1H224M	Mylar	0.022μF ±20%
Ce23	CE04W1H221	Electrolytic	220μF 50WV
Ce24	CE04W1H010	Electrolytic	1μF 50WV
Ce25	CE04W1C101 (NPI)	Non-pole Electrolytic	100μF 16WV
Ce26	CE04W1E101M BR	Electrolytic	100μF 25WV
Ce27	CO03M1H333M	Mylar	0.033μF ±20%
Ce28	CO03M1H333M	Mylar	0.033μF ±20%
Ce28	CO03M1H104M	Mylar	0.1μF ±20%
<b>RESISTOR</b>			
Re1 2	PD14CY2E234J	Carbon	330kΩ ±5% 1/4W
Re3 4	PD14CY2E562J	Carbon	56kΩ ±5% 1/4W
Re5 6	PD14CY2E563J	Carbon	2.2kΩ ±5% 1/4W
Re7 8	PD14CY2E722J	Carbon	2.7kΩ ±5% 1/4W
Re9	PD14CY2E153J	Carbon	15kΩ ±5% 1/4W
Re10	PD14BY2E153J	Carbon	15kΩ ±5% 1/4W
Re11 12	PD14CY2E552J	Carbon	5.6kΩ ±5% 1/4W
Re13	PD14BY2E563J	Carbon	56kΩ ±5% 1/4W
Re14	PD14CY2E163J	Carbon	56kΩ ±5% 1/4W
Re15 ~18	PD14CY2E560J	Carbon	56kΩ ±5% 1/4W
Re19 20	RC05GF2H222K	Carbon	0.22kΩ ±10% 1/2W
Re21 22	RC05GF2H472K	Carbon	4.7kΩ ±10% 1/2W
Re23 24	PD14CY2E272J	Carbon	2.7kΩ ±5% 1/4W
Re25 26	PD14BY2E821J	Carbon	820kΩ ±5% 1/4W
Re27	PD14CY2E102J	Carbon	1kΩ ±5% 1/4W
Re28	PD14BY2E102J	Carbon	1kΩ ±5% 1/4W
Re29 30	PD14CY2E561J	Carbon	560kΩ ±5% 1/4W
Re31	PD14V7E881J	Carbon	880kΩ ±5% 1/4W
Re32	PD14CY2E153J	Carbon	15kΩ ±5% 1/4W
Re33 34	PD14CY2E561J	Carbon	560kΩ ±5% 1/4W
Re35 36	PD14BY2E881J	Carbon	880kΩ ±5% 1/4W
Re37 ~40	PD14CY2E153J	Carbon	15kΩ ±5% 1/4W

Ref No	Parts No	Description	Remarks
<b>RESISTOR</b>			
Re41 ~44	PD14BY2E331J B	Carbon	330kΩ ±5% 1/4W
Re45 ~48	RN14AB3 DR47K B	Metal film	0.47kΩ ±10% 2W
Re49 50	RN14AB3 DR47K B	Metal film	4.7kΩ ±10% 2W
Re51	RC05GF2H222K	Carbon	2.2kΩ ±10% 1/2W
Re52	PD14BY2E560J B	Carbon	56kΩ ±5% 1/4W
Re53 54	PD14BY2E223J	Carbon	22kΩ ±5% 1/4W
Re55	PD14CY2E682J	Carbon	6.8kΩ ±5% 1/4W
Re56 57	PD14CY2E333J	Carbon	33kΩ ±5% 1/4W
Re58	PD14CY2E682J	Carbon	6.8kΩ ±5% 1/4W
<b>SEMICONDUCTOR</b>			
Qe1 ~4	V01 0127 05	Transistor 2SA620W4 or 5	
Qe5 6	V03 0380 05	Transistor 2SC1451 (I) or (B)	
Qe7 8	V03 0359 05	Transistor 2SC1416 (I) or (B)	
Qe9 10	V01 0084 05	Transistor 2SA733	
Qe11 ~14	V03 0270 05	Transistor 2SC945	
Qe15 16	V01 0084 05	Transistor 2SA733	
Qe17 18	V03 0235 05	Transistor 2SC1212A (B) or (C)	
Qe19 20	V01 0119 05	Transistor 2SA743A (B) or (C)	
Qe21 22	V04 0037 05	Transistor 2SD188	10 12
Qe23 24	V03 0321 05	Transistor 2SC1444	11
Qe25	V01 0062 05	Transistor 2SAF27	10 12
Qe26	V01 0098 05	Transistor 2SA764	11
Qe27	V03 0358 05	Transistor 2SC1416	
Qe28	V03 0235 05	Transistor 2SC1213A (C)	
De1 ~4	V11 0273 05	Diode 1S2078	
De5	V11 0254 05	Zener diode YZ 140	
De6 7	V11 0273 05	Diode 1S2075	
De8	V11 0354 05	Diode EQB01 14	10
Thel 2	V22 0027 05	Diode EQB01 08	11
		Diode EQB01 11	12
		Thermistor S7P 41L	
<b>MISCELLANEOUS</b>			
VRe1 2	R12 1012 05	PC trimmer potentiometer 1kΩ (B)	
Rel 1	S51 4029 05	Relay	
-	E02 0209 05	Transistor socket x 4	
-	F01 0107 23	Relay	
-	F20 0066 05	Micro plate x 4	

# PC BOARD

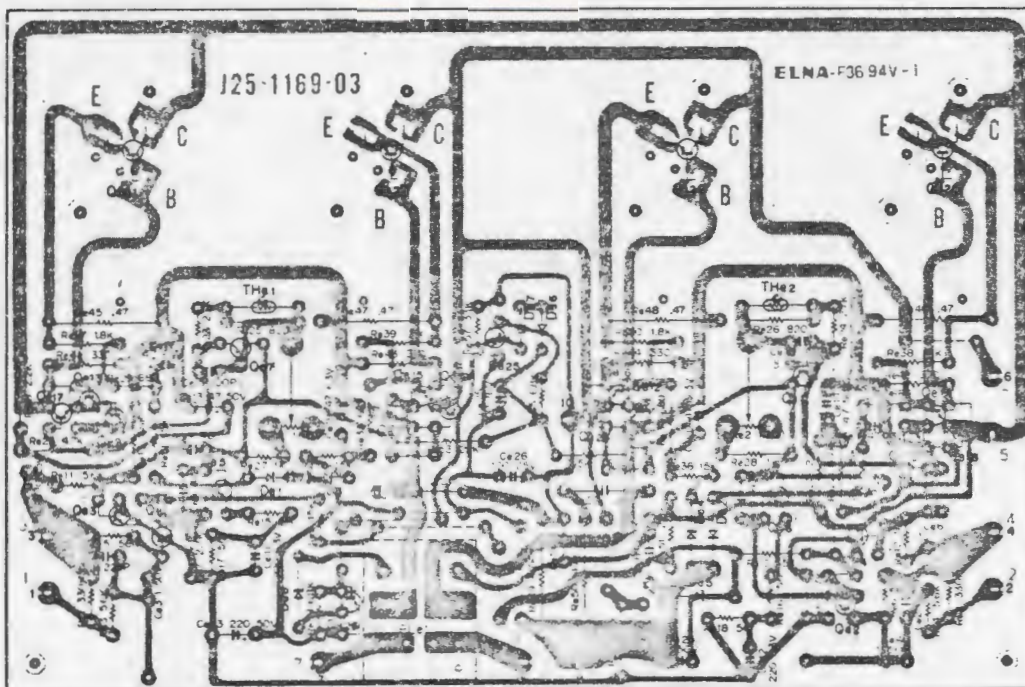
## ▼ MAIN AMP (X07-1350-10)

(X07-1350-12) is changed with the value of Re3, Re4, Ce28 and De8, and refer to the PARTS LIST.



Qe1~4: 2SA620WN4or5, Qe5,6: 2SC1451(G)or(B), Qe7,8: 2SC1416GR, Qe9,10,15,16: 2SA733, Qe11~14: 2SC945, Qe17,18: 2SC1212A(B)or(C), Qe19,20: 2SA743(B)or(C), Qe21,22: 2SD188, Qe23,24: 2SA627, Qe25: 2SC1416, Qe26: 2SC1213A(C), De1~4,6,7: 1S2070, De5: YZ-140, De8: EQB01-14, Th1,2: 5TP-41 L

## ▼ MAIN AMP (X07-1350-11)

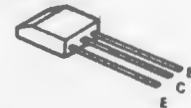


Qe1~4: 2SA620WN4or5, Qe5,6: 2SC1451(G)or(B), Qe7,8: 2SC1416GR, Qe9,10,15,16: 2SA733, Qe11~14: 2SC945, Qe17,18: 2SC1212A(B)or(C), Qe19,20: 2SA743(B)or(C), Qe21,22: 2SC1444, Qe23,24: 2SA764, Qe25: 2SC1416, Qe26: 2SC1213A(C), De1~4,6,7: 1S2070, De5: YZ-140, De8: EQA01-08, Th1,2: 5TP-41 L

2SA620WL



2SC1213A



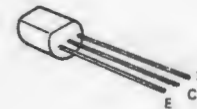
2SC1416



2SC1451



2SA733  
2SC945



2SA743A  
2SC1212A



2SA627  
2SA764  
2SC1444  
2SD188

